

REMARKS

The last Office Action of June 11, 2007 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 22-43 are pending in the application. Claim 22 has been amended. No claims have been canceled or added. No amendment to the specification has been made. No fee is due.

Claims 22-29, 31-33, 37-41 are rejected under s being unpatentable over published U.S. Pat. Appl. No. 2001/00037878 A1 to Ball et al. in view of U.S. Pat. No. 3,882,285 A to Nunley et al.

Claim 30 is rejected under s being unpatentable over Ball et al. and Nunley et al. in view of U.S. Pat. No. 6,627,104 B1 to Wang et al.

Claims 35, 36 are rejected under s being unpatentable over Ball et al. and Nunley et al. in view of published U.S. Pat. Appl. No. 2002/0019669 to Berrang et al.

Claims 42, 43 are rejected under s being unpatentable over Ball et al. and Nunley et al. in view of U.S. Pat. No. 5,836,863 to Bushek et al.

The Examiner's rejection is confusing since the examiner lumped the grounds for rejecting claims 22-29, 31-33 and 37-41 together in a single paragraph spanning pages 3-5 of the Action, without addressing the elements of each rejected claim individually. Only the first 8 lines of examiner's arguments on page 3 and the second paragraph on page 5 appear to be applicable to the rejection of the independent claim 22. Therefore, applicant has no opportunity to properly respond. If the Examiner maintains the rejections in a subsequent Office action, applicant respectfully requests that such rejection be non-final, to allow the applicant an opportunity to respond.

Applicant has amended claim 22 to clearly set forth the features of the present invention. Claim 22 recites an implantable electromechanical converter for receiving oscillations from an ear ossicle and for converting the received

oscillations into an electrical voltage, for use as a microphone for a cochlea implant or an implantable hearing aid. The electromechanical converter is implemented as one or more piezoelectric converter elements, which convert the oscillations into an electric voltage.

Ball discloses a floating mass transducer for improving hearing in a hearing impaired person wherein the floating mass transducer may be implanted or mounted externally for producing vibrations in a vibratory structure of an ear. Ball also discloses that the floating mass transducer produces vibrations using piezoelectric materials. (Abstract)

Applicant has carefully reviewed the Ball reference and did not find any teaching or suggestion in Ball where a piezoelectric transducer is used for any purpose other than to convert an electric input signal into mechanical output energy. This is just the opposite of what is taught by the present invention, where the piezoelectric transducer is used to convert acoustic energy coupled to the thin shell of the hollow body into an electric signal. The exterior side of the thin shell is adapted to be coupled to the ear ossicle, whereas a stable edge supporting the thin shell is coupled to a counter-support in the middle ear space.

Likewise, Nunley discloses an implantable device with a microphone and a piezoelectric transducer which converts amplified electric signals into mechanical vibrations for coupling to a mechanical drive structure in the ear , such as the ossicular chain (col. 3, lines 16–18). In other words, Nunley also fails to teach or suggest converting acoustic (mechanical) energy into an electric signal, as taught by the present invention.

Bushek also discloses only piezoelectric output transducer, which convert electric energy into mechanical energy, which is again just the opposite of what is taught by the present invention.

As clearly stated in paragraphs [0009] to [0014] of the specification and now more clearly recited in amended claim 1, the invention is directed to an improved implantable microphonic device that converts sound received by the ear into electrical signals with sufficient sensitivity over the entire useful frequency range,

which more specifically consumes as little energy as possible, which protects the sensitive bone and tissue structures of the ear by suitable positioning and coupling of the implantable microphone, and which provides long-term stability and biocompatibility of the implantable microphonic device. Such a device is not taught by the prior art of record.

For the reasons set forth above, it is applicant's contention that none of the applied prior art, taken alone or in any combination thereof teaches or suggests the features of the present invention, as recited in claim 22.

As for the rejection of the retained dependent claims, these claims depend on claim 22, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the claims on file. It is thus felt that no specific discussion thereof is necessary.

Withdrawal of the rejections under 35 U.S.C. §103(a) and allowance of all claims are respectfully requested.

CONCLUSION

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant

would greatly appreciate such a telephone interview.

Respectfully submitted,

By: 

Henry M. Feiereisen
Agent For Applicant
Reg. No: 31,084

Date: November 9, 2007
350 Fifth Avenue
Suite 4714
New York, N.Y. 10118
(212)244-5500
HMF/WS:af